CLAIMS

1. A semiconductor device, comprising:

a contact pad;

a conductive bump on said contact pad, said bump comprising a coaxially-aligned stack of bodies having different cross-sectional dimensions, said bodies at the top of said stack having smaller cross-sectional dimensions.

2. The semiconductor device described in Claim 1 in which the uppermost body in said stack has a flat peak plane.

3. The semiconductor device described in Claim 1 in which the coaxially-aligned bodies are circular.

4. The semiconductor device described in Claim 1 in which the bodies are made of gold.

5. The semiconductor device described in Claim 2 in which the bodies are made of gold.

6. The semiconductor device described in Claim 3 in which the bodies are made of gold.

7. A method for forming a conductive bump on a semiconductor device including:

providing an electrode pad at a prescribed position on the main surface of a semiconductor substrate formed monolithically with an electronic circuit;

forming a passivation film on the main surface of the semiconductor substrate such that the pad is exposed;

forming a seed layer for electrolysis on the electrode pad and the passivation film;

forming a first resist film on the seed layer;

patterning the first resist film in order to create a first opening part with a prescribed shape on the electrode pad by locally removing the first resist film;

forming a first plated film made of a conductive metal in the first opening part using the patterned first resist film as a mask;

forming a second resist film on the first resist film and the first plated film;

patterning the second resist film in order to create a second opening part with a prescribed shape above the center of the first plated film by locally removing the second resist film;

forming a second plated film made of a conductive metal in the second opening part using the patterned second resist film as a mask;

removing the first and the second resist films; and

removing the seed layer on the passivation film using the first and the second plated films as masks.

8. A method for forming a conductive bump on a semiconductor device, comprising the steps of:

providing an electrode pad at a prescribed position on the main surface of a semiconductor substrate formed monolithically with an electronic circuit;

forming a passivation film on the main surface of the semiconductor substrate such that the pad is exposed;

forming a seed layer for electrolysis on the electrode pad and the passivation film;

forming a first resist film on the seed layer;

patterning the first resist film in order to create a first opening part with a prescribed shape on the electrode pad by locally removing the first resist film;

forming a second resist film on the first resist film to cover the first opening part on the electrode pad;

patterning the second resist film in order to create a second opening part with a prescribed shape above the electrode pad by locally removing the second resist film;

forming a plated film made of a conductive metal in the first and the second opening parts to a height in excess at least of the bottom surface of the second resist film using the second resist film as a mask;

removing the first and the second resist films;, and

removing the seed layer on the passivation film using the plated film as a mask.